

# Grouping Tens and Ones

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**Reporting Category** Number and Number Sense

**Topic** Counting and writing numerals from 0 to 100

## Materials

- Story that features counting
- Collections of various manipulatives (e.g., bottle caps, shells, beans, keys, jewels, toothpicks, buttons, chicken rings, plastic animals, beads, marbles, erasers)
- Place-value mats
- Place-value materials (e.g., beans and cups, plastic cubes that can be snapped together, ten frames)
- Large display place-value mat and materials

## Vocabulary

*count, number, ones, tens, grouping, regrouping, place, value, place value, digit, set*

## Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Review counting and the numerals from 0 to 100 by sharing a relevant story that features counting and/or numeral recognition.
2. Provide each student with a place-value mat (made by folding an 8½ x 11 inch sheet of paper in half and labeling the two columns formed by the crease with the headings “Ones” and “Tens”) and a visual representation of each category. For example, a base ten unit (small cube) can represent the ones column, and a rod can represent the tens column. Also, provide students sets of place-value materials to use for regrouping (e.g., beans and cups, ten frames, plastic snapping cubes).
3. Display a blank mat, and ask how many items are on the mat. Talk about the numeral zero, and record it to represent the blank mat. (Once students regroup 10 items, the zero will be recorded again, this time to represent that there are no ones in the ones place.)
4. Tell students to add one item to their place-value mat while modeling the placement in the unit or ones column on the display mat. Continue adding one item at a time and recording the corresponding numeral until you reach a total of 10. Explain that 10 items cannot be placed in the ones column. Tell the students that the items will be regrouped into the rod or tens column. (The materials used determine the word that should be used: base ten blocks are traded or exchanged—10 units for one rod; beans are regrouped—10 in a cup; plastic cubes are regrouped—10 cubes snapped together to create a stick or rod.) Continue

adding one unit at a time, and discuss how the corresponding numeral changes as each new unit (or group of 10) is added and represented on the place-value chart.

Note: Students need many experiences with grouping all types of objects and place-value materials into sets of tens and ones and recording the corresponding numerals. At this level, emphasize grouping as a more efficient way to count a large number of objects.

### **Assessment**

- **Questions**
  - “What numeral represents “no objects” in a group?”
  - “Look at the numeral 40. What does the 4 represent? What does the 0 represent?” (four tens; zero ones)
- **Journal/Writing Prompts**
  - “Represent the number 72 in two different ways. Write about how you represented 72.” (Possible responses include showing seven groups of 10 items and two ones; showing seven rods and two units; writing  $62 + 10$ .)
  - “I have five groups of 10 apples and three more apples. Show and tell me how you can figure out how many apples I have all together.”
  - “You have 65 marbles, and I give you 10 (or any number) more. Show me how you can find out and prove how many you now have.”
- **Other**
  - Make observations while groups are counting and regrouping objects.
  - Place a bag of beans and plastic cups in your math center for students to practice counting and grouping by tens and ones. Have them represent their work in their math journals.

### **Extensions and Connections (for all students)**

- Set up part of the bulletin board as an “Estimation Station.” Each week, have a different student take home a “Guessing Jar” and fill it with items to estimate, count, sort, and group into tens and ones for additional place-value practice.

### **Strategies for Differentiation**

- Pair students to help support each others’ learning.
- Begin working with small amounts of items to group and count, increasing the number of items to be counted as students demonstrate readiness.
- Provide a sentence frame, “I have \_\_\_\_ tens, and I have \_\_\_\_ ones. I have \_\_\_\_ in all.” Have students use the sentence frame to record the results of their grouping and counting experiences.